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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,048	06/19/2003	Louis A. Lippincott	884.899US1	6019
21186	7590	01/28/2005	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			MONESTIME, MACKLY	
			ART UNIT	PAPER NUMBER
			2676	

DATE MAILED: 01/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/600,048	LIPPINCOTT, LOUIS A.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Mackly Monestime	2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 June 2003.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-30 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

1. Claims 1-30 are presented for examination.

### ***Specification***

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

2. As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:
  - (a) TITLE OF THE INVENTION.
  - (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
  - (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
  - (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or

REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a)).

"Microfiche Appendices" were accepted by the Office until March 1, 2001.)

(e) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(f) BRIEF SUMMARY OF THE INVENTION.

(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(h) DETAILED DESCRIPTION OF THE INVENTION.

(i) CLAIM OR CLAIMS (commencing on a separate sheet).

(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A

"Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

3. The present invention does not contain the "**Summary of the Invention**".

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-12 and 18-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Isfeld et al (US Patent No. 5,828835).

6. As per claims 1, 7, 18 and 25, Isfeld et al disclosed the invention as claimed, including an apparatus comprising: a first processor having a first processor element and at least one input/output (I/O) port within a first port ring; and a second processor having a second processor element and at least one I/O port within a second port ring, wherein the second processor is coupled to the first processor through at least one I/O port of a third port ring of a third processor (col. 41, lines 21-23, plurality of processors, having a token ring network connection; col. 6, lines 26-32).

7. As per claims 2 and 8, Isfeld et al disclosed wherein the at least one I/O port of the first processor is not directly connected to the at least one I/O port of the second processor (col. 6, lines 26-32; token ring network connection).

8. As per claim 3, Isfeld et al disclosed wherein the first processor, the second processor and the third processor are part of a number of processors in a point-to-point configuration (col. 41, lines 21-23, plurality of processors, token ring network connection, series connection, (i.e.) point-to-point fashion).

9. As per claims 4 and 9-10, Isfeld et al disclosed wherein the first processor is configured to transmit output from an image process operation to the second processor through the at least one I/O port of the port ring of the third processor based on a logical connection (col. 30, lines 41-44; lines 64-67).

10. As per claims 5, Isfeld et al disclosed wherein the at least one I/O port within the port ring of the first processor, the at least one I/O port within the port ring of the second processor and the at least one I/O port within the port ring of the third processor comprise a First-In-First-out memory (col. 2, lines 63-65, Fig 11, Item No. 222; data are transmitted and received on a first-in-first-out rules, col. Col. 37, lines 58-59; col. 38, lines 54-54).

11. As per claims 6 and 19, Isfeld et al disclosed wherein the at least one port of the first processor, the at least one port of the second processor and the at least one port of the third processor comprise a receiver port and a transmitter port (col. 41, lines 21-23, plurality of processors, using token ring network inherent disclosed a receiving end, and a transmission end), wherein the first processor is configured to transmit the output based on a handshake protocol among the receiver ports and the transmitter ports of the first processor, the second processor and the third processor (col. 13, lines 37-42).

12. As per claim 11, Isfeld et al disclosed wherein the logical connections are to originate at a source image signal processor of the number of image signal processors and to traverse a number of intermediate image signal processors of the number of image signal processors and to complete at a destination image signal processor of the number of image signal processors (col. 2, lines 55-57), wherein the source image signal processor is to transmit an initialize signal, prior to transmission of data along the logical connection, through the number of intermediate image signal processors to the destination image signal processor in the order that data is transmitted in the logical connection (col. 41, lines 21-32, 50-53; col. 37, lines 48-53).

13. As per claim 12, Isfeld et al disclosed that the number of ports include a storage memory for storage of data between communicated among the number of image processors through the configured logical connections (col. 41, lines 36-43).

14. As per claims 20 and 26, Isfeld et al disclosed registering the logical connection with the number of ports in the logical connection based on transmission of an initialization signal through the logical connection prior to the execution operation and the forwarding operation (Figs. 6-7; col. 8, lines 46-53; col. 9, lines 67).

15. As per claims 21 and 27, Isfeld et al disclosed wherein forwarding the output of the image process operation through the logical connection that includes the data path through the number of ports of the port rings of the number of image signal processors comprises forwarding the output of the image process operation through the logical connection that includes the data path through the number of ports of the port rings of the number of image signal processors (col. 41, lines 21-32; col. 37, lines 3-13), wherein the number of image signal processors are connected together through the number of ports in a point-to-point configuration (col. 41, lines 21-23, plurality of processors, token ring network connection, series connection, (i.e.) point-to-point fashion).

16. As per claims 22 and 28, Isfeld et al disclosed a method comprising receiving configuration data for a logical connection established for transmission of image data from a source image signal processor to a destination image signal processor through a number of intermediate image signal processors (col. 41, lines 21-26; col. 8, lines 46-53); registering the logical connection with ports of the source image signal processor,

the destination image signal processor and the number of intermediate image signal processors (Figs. 6-7; col. 8, lines 46-53; col. 9, lines 67) and routing the image data through the ports of the logical connection, subsequent to registering the logical connection and independent of image process operations by processing elements within the number of intermediate image signal processors (col. 4, lines 36-43; col. 7, lines 64-67; col. 8, lines 1-6, and lines 19-34).

17. As per claims 23 and 29, Isfeld et al disclosed wherein registering the logical connection with the ports of the source image signal processor, the destination image signal processor and the number of intermediate image signal processors comprises transmitting an initialize signal that is transmitted along a path of the logical connection that the image data is routed (Figs. 6-7; col. 8, lines 46-53; col. 9, lines 67; col. 41, lines 26-27).

18. As per claim 24 and 30, Isfeld et al disclosed wherein registering the logical connection with the ports of the source image signal processor, the destination image signal processor and the number of intermediate image signal processors comprises registering point- to-point connections between the ports of the logical connection (Fig. 7; col. 8, lines 46-53; col. 9, lines 67; col. 41, lines 26-27; plurality of processors, token ring network connection, series connection, (i.e.) point-to-point fashion).

### ***Claim Rejections - 35 USC § 103***

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isfeld et al (US Pat. No. 5,828,835) in view of Hsieh et al (US Pat. No. 6,757,019).

21. As per claim 13, Isfeld et al substantially disclosed the invention as claimed, including a system comprising: an image processor comprising a number of expansion interfaces (col. 6, lines 16-25; lines 40-44) and a number of image signal processors (col. 4, line 39), wherein at least one expansion interface of the number of expansion interfaces is configured to receive image (col. 8, lines 37-39), wherein at least one image signal processor of the number of image signal processors comprises a processor element and a port ring having a number of input/output ports to couple the at least one image signal processor to other image signal processors in the image processor in a point-to-point configuration (col. 41, lines 21-23, plurality of processors, having a token ring network connection; col. 6, lines 26-32); and a host processor to configure a number of logical connections among the number of image signal processors (Fig. 7, Item No. 3).

Isfeld et al did not explicitly disclose a Complementary Metal Oxide Semiconductor (CMOS) sensor to capture image data. However, Hsieh et al disclosed a parallel processing architecture in a plurality of processors concurrently operate upon different block of image data, wherein image data has been capture by a CMOS sensor (col. 3, lines 33-38). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the cited references because doing would

provide an integrated image sensor and processor which can easily distribute processing tasks among parallel processing elements and control elements as dictated by image processing algorithms.

22. As per claim 14, Isfeld et al disclosed wherein the at least one image signal processor comprises a hardware accelerator to execute image process operations (col. 8, lines 24-28).

23. As per claim 15, Isfeld et al disclosed wherein the image processor comprises a global bus coupled to the number of expansion interfaces (Fig. 1, Item No. 11) and the number of image signal processors, independent of the point-to-point configuration among the number of image signal processors (col. 41, lines 21-23, plurality of processors, having a token ring network connection; col. 6, lines 26-32).

24. As per claims 16-17, Isfeld et al disclosed wherein at least one logical connection is to originate at a source image signal processor of the number of image signal processors and to finish at a destination image signal processor of the number of image signal processors (col. 2, lines 55-57); wherein the at least one logical connection includes traversal through a number of ports of the port rings of at least one intermediate image signal processor of the number of image signal processors between the source image signal processor and the destination image signal processor (col. 41, lines 21-32, 50-53; col. 37, lines 48-53).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dubreuil (US Patent No. 6,804,193) taught a protected Ethernet backplane communication.

Faget et al (US Pat. No. 5,911,056) taught a high speed interconnect bus.

Branco et al (US Patent No. 5,630,161) taught a serial parallel digital signal processor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mackly Monestime whose telephone number is (703) 305-3855. The examiner can normally be reached on Monday to Thursday from 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bella Matthew, can be reached on (703) 308-6829.

**Any response to this action should be mailed to:**

Commissioner of Patent and Trademarks  
Washington, D.C. 20231

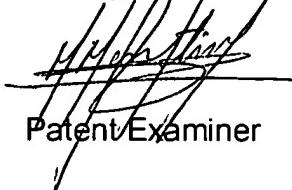
**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

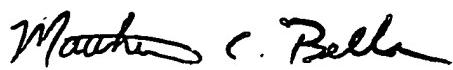
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Mackly Monestime

  
~~Mackly Monestime~~  
Patent Examiner

January 26, 2005



MATTHEW C. BELLA  
SUPERVISORY PATENT EXAMINER  
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